National Public Safety Broadband Network Update Presentation to PSCC

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Public Safety Interoperable Communications Office

Outline

- Overview of the National Public Safety Broadband Network (NPSBN)

- Key Recent Events:

  - PSCR Meeting

  - Numbering Scheme Update

  - NPSTC Task Groups and the Broadband Statement of Requirements

  - NTIA and BTOP recipients

  - FCC request for comment – waiver/lease transition

  - Public Safety Interoperability Board Public Workshop – scope validation

  - Mesa TOPAZ status

- Implementing the Public Safety Broadband Network in AZ

OVERVIEW OF THE NATIONAL PUBLIC SAFETY BROADBAND NETWORK (NPSBN)

National Public Safety Broadband Network

On February 22, 2012, H.R. 3630 was signed into law. Key Features of the legislation include:

- Allocates the "D-Block" spectrum to Public Safety

- Forms First Responder Network Authority (FirstNet)
    - Responsible for build out and maintenance of a national NPSBN
    - Responsible for working with local jurisdictions to define boundaries, roles and responsibilities

- Authorizes auction of reclaimed radio/TV frequency with funding going toward the NPSBN build-out, related programs and deficit reduction

- Giveback of television band (T-band) frequency currently allocated to some jurisdictions [Note: No impact on Arizona]

HR 3630 Timeline

- FCC – Public Safety Interoperability Board (PSIB)
  - Group formed by 3/22/2012 (30 days) – *completed on schedule*
  - Network Plan and minimum interoperability requirements completed by 5/22/2012 (90 days)
- FirstNet
  - Group formed by 8/22/2012 (180 days)
  - After 8/22/2012 - FirstNet will develop individual state RFPs based on Network Plan developed by PSIB
  - RFPs delivered to each state (date NOT specified)
- States
  - Opt-out Decision by Governors (90 days after receipt of RFPs); If do not Opt-out, automatically included
  - If Opt-out, then develop a State Plan (180 days after Opt-out)
  - If Opt-out, FCC (not FirstNet) will accept or reject the State Plan after submitted by the state (date of decision NOT specified)

- $135M for State and Local Implementation Grant Program – **Guidelines and Timing NOT yet established**

  - For State, regional, Tribal and local jurisdictions to identify, plan and implement the NPSBN with regards to coverage, siting, and other needs (*Our assumption is ~$2 million for AZ*)

  - 20 percent match required, unless waived by the National Telecommunications and Information Administration (NTIA) (*Our assumption is ~$400,00 for AZ*)

  - These grants must be coordinated through a single, state-certified officer or governmental body (*i.e., AZDOHS?; PSIC?*)

- $115 million to 911, E911, and NG911
  [Note: States which have raided 9-1-1 funds will not be eligible]

- $300 million to the National Institute of Standards and Technology (NIST) Public Safety Communications Research (PSCR) Program for research and development

- $7B for the Network Construction Fund

  - FirstNet can borrow up to $2B upfront with the remainder coming from frequency auctions

  - Unclear how much will be available to states

- $20.4 billion for deficit reduction

NPSBN Architecture

A core network with national and regional data centers (which may be distributed geographically)

- Based on commercial standards
- Provides connectivity between the radio access network (RAN) and the public Internet and the public switched network

Backbone	• National IP/IPX Services – IP to State and Local Applications • National Applications, Call, SMS, MMS and Media Servers
Core	• Control and interface to backbone • OSS/EMS, MME, HSS/PCRF, P-CSCF

Consists of cell site equipment, antennas, and backhaul equipment needed to enable wireless communications with devices using the NPSBN; built and operated taking into account the plans developed by the State, local and Tribal entities

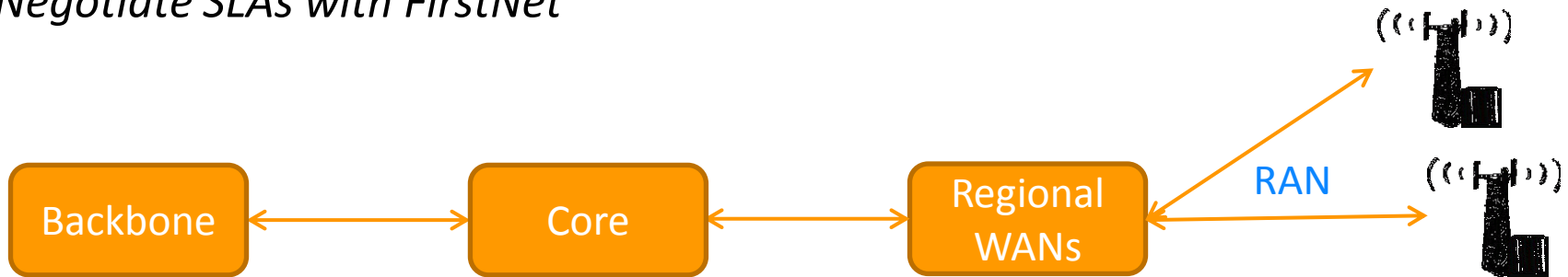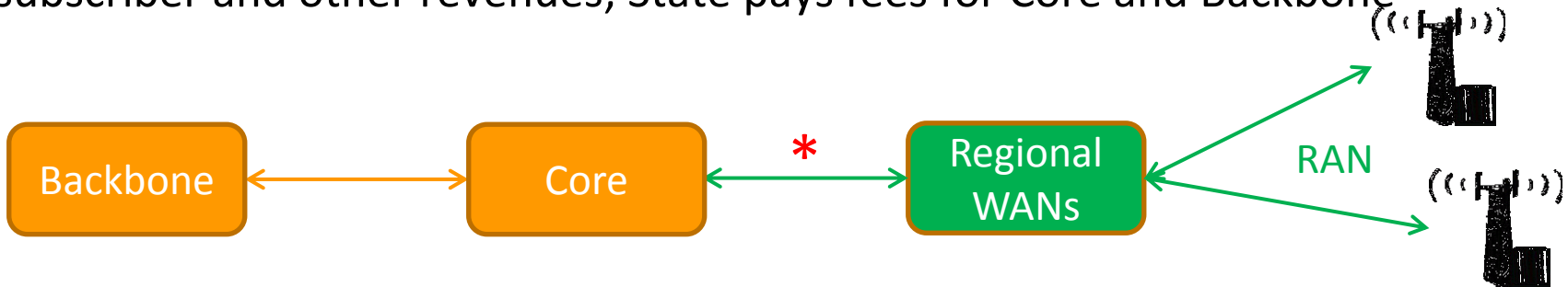| Regional WANs	• Aggregation Point • S-Gateway & P-Gateway
RAN	• Radio Access Network (RAN) • Cell Towers, Antennae and eNodeBs

Options

Opt In (Default) – State pays for User Equipment (UE); State pays fees for rest of the network (RAN, Regional WANs, Core & Backbone); *Negotiate SLAs with FirstNet*

Backbone	⟷	Core	⟷	Regional WANs	RAN

Opt Out – State pays for UE, RAN and Regional WANs; NTIA Grants (80/20) are available; Enables maintenance / expansion based on subscriber and other revenues; State pays fees for Core and Backbone

Backbone	⟷	Core	*	Regional WANs	RAN

Opt in - Opt out

- If a state decides to build its own portion of the network in its state (Opt-out), the Governor must notify FirstNet, the FCC and the NTIA no later than 90 days after receipt of the RFP from FirstNet.

- Within 180 days of opting out, the state must develop a State Plan for build out of the network within the state and present the plan to the FCC for approval. The State Plan must:

  - Be in compliance with the minimum technical requirements of the Nationwide network

  - Be interoperable with the Nationwide network

- The timeline for FCC approval has not been established.

Fees

- The NPSBN will be permitted to generate revenues.

- The total amount of fees collected may not exceed the amount necessary to cover the cost of maintaining the network. This applies to FirstNet (Opt-in) or the State (Opt-out).

- The network operator (FirstNet or the State) is authorized to assess and collect:

    - Network user subscription fees to construct, manage and operate the network

    - Fees resulting from public/private partnerships

    - Backhaul services fees

    - Equipment access fees from entities for access to, or use of, any owned by the network owner (towers, etc.)

- Urgent Communications Webinar:
  - Anna Gomez: Deputy Assistant Secretary, NTIA
  - *Next Generation Communications: What Does It Mean To You?*

- Summary of H.R. 3630
  - Chris Essid: Director, Office of Emergency Communications
  - *Summary of the Nationwide Public Safety Broadband Network (NPSBN) Legislation*

- NCSWICS memo: The SWIC's role in the NPSBN (see handout)
  - Mark Grubb: Chair – National Council of SWICs (NCSWIC)

Recommended Resources (2 of 2)

- The Governors role in the NPSBN (see handout)

  - Penny Rubow: Arkansas SWIC, reviewed by the NCSWIC Executive Committee

- APCO Tech Forum presentation

  - Andy Seybold: Vice-Chairman, APCO Broadband Committee

  - Broadband 101

- National Public Safety Telecommunications Council (NPSTC) Website – planned launch April 16, 2012

  - Clearing house for all things Public Safety Broadband

  - Public Safety Broadband Directory

Discussion

Questions about the

National Public Safety Broadband Network

or H.R. 3630?

KEY RECENT EVENTS

PSCR Meeting

- Public Safety 700-MHz Demonstration Network

  Spring 2012 Stakeholder Meeting

  March 6-7, 2012 – Boulder, CO

- <u>Overview and highlights</u>
  - Phase 1 test results and lessons learned
  - Current task group findings
  - Recent public safety broadband requirements gathering and standards development activities
  - Preliminary voice over broadband audio quality testing findings and future plans
  - Nationwide broadband modeling and simulation efforts and results being conducted by *NIST*

- <u>Meeting agenda and slide decks</u>

Numbering Scheme Update

- The Public Safety Spectrum Trust Operator Advisory Committee (PSST-OAC) Numbering Scheme Working Group has worked with the DHS-OEC and Science Applications International Corporation (SAIC) to establish the numbering scheme and the request/allocation process.

- SAIC has been recognized by the FCC as the central administrator for network identifiers.

- Both Charlotte, NC and Harris County, TX have requested and received the network identifier allocations for their upcoming deployments.

NPSTC Task Groups

- All of the NPSTC Task Groups are finalizing the requirements definition and use-case creation:

    - Local Control and Priority/QoS – complete and submitted to NPSTC

    - Multi-Media Emergency Services (MMES) – planned completion in 1 week

    - Security and Voice – targeting the end of April for completion

- Two foundation documents created by NPSTC are undergoing an aggressively scheduled rewrite to incorporate the current state of policy (e.g. single PLNM-ID) and technology (maturation of the LTE standard), with a planned completion date of August 2012:

    - 700 MHz Public Safety Broadband Task Force Report (Sep 2009)

    - 700 MHz Statement of Requirements for Public Safety (Nov 2007)

NTIA's stance with BTOP recipients

- The NTIA manages the Broadband Technology Opportunities Program (BTOP) funds for 7 of the 21 waiver recipients.

- NTIA is concerned that money spent on LTE equipment may be stranded if the waiver recipient's design/equipment is at odds with the ultimate FirstNet design.

- On a call with all the BTOP/waiver recipients, NTIA Assistant Secretary Larry Strickling asked for BTOP grantees to hold off on buying any LTE equipment.

- The Waiver Recipients are preparing a response to NTIA asking them to reconsider:
  - Expressing the value of the waiver recipients being able to prototype and validate approaches for equipment, design, policy and partnerships.
  - Although Mesa is not impacted since they do not have a BTOP grant, the NTIA hoped all waiver recipients would follow suit.

FCC request for comment

- In addition, the FCC has asked for comment on the upcoming license transition & waiver renewal.

  - The current leases/waiver are set to expire on September 7, 2012. Since FirstNet will be stood up by August 22, 2012, it seems opportune to:
    - » Transition the Spectrum Lease from PSST to FirstNet
    - » Expand the waivers to include the D-block spectrum
    - » Renew the waivers through FirstNet with a 2 year renewal

  - Comment deadline is April 20, 2012
    - » The PSST-Operator Advisory Council is working on a generic response
    - » Mesa TOPAZ is also working on a specific response

PSIB Public Workshop

- Public Workshop hosted by the PSIB (Technical Advisory Board For First Responder Interoperability). <u>See Handout</u>. April 23, 2012 8:30am EDT

- The workshop will consist of four, 45-minute moderated panel discussions:

    1. The scope the Interoperability Board has established for its work (see below)
    2. Relevant standards, interfaces, guidelines, requirements establishment and conformance
    3. Interoperability requirements associated with Grade(s) of Service, Prioritization/Quality of Service and Mobility/Handover
    4. Network security

- The PSIB has established an open docket to receive questions and comments: <u>PS Docket 12-74</u>

Mesa TOPAZ Status

- The responses to Mesa's RFP were due February 16, 2012; bids were received from Alcatel Lucent, Motorola and Raytheon.

- RFP review team kickoff meeting was March 12, 2012 and they have met every Thursday since.

- The team plans to complete the RFP review process within a couple of weeks and will proceed to follow-up questions for the vendors and/or a best and final phase.

- Conundrum: Mesa and the other waiver recipients may have to rethink the planned architecture due to the conceptual framework defined in H.R. 3630 which specifies that all core components are part of the NPSBN network and are not part of the State's portion of the network. However, it is unlikely that the NPSBN cores will available for an estimated 18 -24 months.

IMPLEMENTING THE PSBN IN AZ

Governor's Staff Briefing

- March 13, 2012 – ADOA, ASET, AZDOHS, DPS and PSIC met with the Governor's staff:

  - Reviewed H.R. 3630 and what it means to Arizona

  - PSIC and ADOA-ASET to take the lead in developing public safety broadband strategy and recommendations for the Governor's Office

  - PSIC to garner input and advice from PSCC, SIEC, AZ Broadband Program (ADOA-ASET), 9-1-1 Office (ADOA-ASET), DPS, AZDOHS and stakeholders statewide, in other states & at the Federal level in researching and developing recommendations

  - PSIC to serve as central point of contact to ensure that all interested parties get uniform and consistent information about our processes and plans and that we become aware of all interested parties

- Track NPSBN progress, in particular:
  - The Interoperability Board's minimum technical requirements for the NPSBN
  - First Net's progress on RAN planning
  - Input/decisions from other agencies such as the FCC, NTIA, DHS, OEC, etc.

- Work with the Arizona Public Safety community to advise the PSCC regarding State-wide standards for interoperability on the NPSBN

- Work with the Arizona Public Safety community to plan how Arizona will interact with the NPSBN

- Advise the PSIC Office on preparing a grant request under the State and Local Implementation Grant Program

- Provide input to the SCIP update effort as it relates to broadband planning.

- Plan and prepare for the FirstNet RFP proposal by recommending minimum criteria based on Arizona's public safety needs.

- Perform the research and analysis required to provide substantive input on the Opt-In/Opt-Out decision.

- Work with the Digital Arizona project and 9-1-1 programs to assure integration and to identify synergies.

- Report back to the PSCC on progress and key recommendations.

Key Milestones

- April 6, 2012: Arizona SB 1402 was passed allowing ADOT to actively pursue the laying of fiber-network conduit working with ADOA

- April 20, 2012: Submission of responses to the FCC concerning the transition of waivers – PSST-OAC and Mesa TOPAZ

- April 23, 2012: Public Workshop hosted by Technical Advisory Board for First Responder Interoperability

- May 22, 2012: SCIP Implementation Workshop – 2012 SCIP Update

- May 22, 2012: Interoperability Board to submit the Minimum Requirements for the NPSBN to the FCC

- June 22, 2012: FCC to approve the Minimum Requirements with any necessary revisions

Formation of AzPSBN Workgroup

- **Proposed Action**: We request that the Public Safety Communications Advisory Commission (PSCC) direct the Public Safety Interoperable Communications (PSIC) office to establish the Arizona Public Safety Broadband Network (AzPSBN) Workgroup in order to provide advice and make recommendations to the PSCC on matters related to the National Public Safety Broadband Network (NPSBN) and the AzPSBN Project.

Discussion Points

- Scope: The group will work on all the items listed in the Project Plan.

- Participants: Regional Radio System Exec Directors, PSAP Mgmt., SIEC, PSCC, Public Safety Stakeholders, Emergency Managers, County Managers, etc.

- Organization: May have targeted sub-groups to focus on particular topics.

- Reporting: Planning on monthly updates in addition to the regular SIEC and PSCC meeting due to the rapid fire nature of this program.

HELP

- Please contact the PSIC Office if you are interested in participating in the AzPSBN Workgroup.

Further Discussion; Questions?

Thank You!

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